

Notice of Allowability

Application No.

09/871,821

Examiner

Ling-Siu Choi

Applicant(s)

LAUKS, IMANTS R.

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment filed 09/05/2006.
2. ☒ The allowed claim(s) is/are 25-48 and 50-56.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date 07/12/2006
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☒ Other See Continuation Sheet.

Supplemental
Office Action Summary

Application No.

09/871,821

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Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _____ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☐ Claim(s) _____ is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 June 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. This Office Action is in response to the Amendment file September 5, 2006.
Claims 1-24 were canceled and claims 25-56 are now pending.

Examiner's Amendment

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CAR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Ms L. Anne Kinsman on December 21, 2006.

3. The application has been amended as follows:

Claim 26, line 1-3, change "The integrated circuit as defined in claim 25, comprising a plurality of devices for electrokinetic transport of an aqueous solute, each device comprising" to --An integrated electrokinetic circuit for transport of an aqueous solute, comprising a plurality of devices for electrokinetic transport of an aqueous solute, each device comprising--;

Delete claim 49.

Allowable Subject Matter

4. Claims 25-48 and 50-56 are allowed.

5. The following is an examiner's statement of reasons for allowance:

The present claims are allowable over the closest references: Lauks (US 4,933,048), Sheldon, III et al. (US 6,129,828), and Boschetti et al. (US 4,048,377).

Summary of claim 25:

An integrated electrokinetic circuit for transport of an aqueous solute, comprising a device for electrokinetic transport of an aqueous solute, the device comprising	
1	an <u>electrically insulating substrate</u>
2	a <u>conductor element</u> for electrokinetic transport of the solute, the conductor element in the form of <i>a solid hydrophilic-matrix layer on the substrate,</i> <i>the matrix layer being in a substantially dry, inactive state wherein electrokinetic transport is substantially prevented</i> and having a first surface engaging the substrate and a second surface
3	a <u>cover layer</u> for electrically insulating and covering the second surface, the cover layer being impermeable to the solute
whereby <i>exposure of the hydrophilic matrix to water converts the matrix from the inactive state state to a hydrated, active state permitting electrokinetric transport of the solute</i>	

Lauks discloses a reference electrode comprising a metal member on a substrate and a layer of a salt reversible to the ion X overlying the metal member, which

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may be a polymer gel having a salt including the ion X dispersed therein, this structure being overlaid by a membrane permeable to water but not to ion X that extends beyond the portion of the electrolyte overlying the electrode (abstract). Lauks further disclose that this assembly may be shipped dry and in use, when the electrode is disposed in an aqueous solution containing an ionic species to be measured, water permeates the membrane and wet up the electrolyte relatively quickly (abstract). However, Lauks does not teach or fairly suggest the integrated electrokinetic circuit to separate the aqueous solute on a voltage being applied, comprising the hydrophilic matrix layer in which the electrokinetic transport is substantially prevented when the hydrophilic matrix layer is substantially dry and the electrokinetic transport is activated when the hydrophilic matrix is wetted; and the cover layer which is impermeable to the solute.

Sheldon, III et al. disclose an apparatus for active biological sample preparation, comprising a sample being pre-prepared and densified by passing through a conductive polymer (abstract). However, Sheldon, III et al. do not teach or fairly suggest the integrated electrokinetic circuit to separate the aqueous solute on a voltage being applied, comprising the hydrophilic matrix layer in which the electrokinetic transport is substantially prevented when the hydrophilic matrix layer is substantially dry and the electrokinetic transport is activated when the hydrophilic matrix is wetted; and the cover layer which is impermeable to the solute.

Boschetti et al. disclose a dried film which is rehydratable into aqueous gel film, comprising agarose or gelose and a water-soluble linear polymer or copolymer of acrylamide or methacrylamide (abstract). Boschetti et al. further disclose that such

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rehydratable film is easily handled and stored (col.1, lines 29-34). However, Boschetti et al. do not teach or fairly suggest the integrated electrokinetic circuit to separate the aqueous solute on a voltage being applied, comprising the hydrophilic matrix layer in which the electrokinetic transport is substantially prevented when the hydrophilic matrix layer is substantially dry and the electrokinetic transport is activated when the hydrophilic matrix is wetted; and the cover layer which is impermeable to the solute.

In light of the above discussion, it is evident as to why the present claims are patentable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

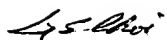
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling-Siu Choi whose telephone number is 571-272-1098.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reach on 571-272-1114.

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LING-SUI CHOI
PRIMARY EXAMINER

December 22, 2006